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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVID DOWNEY, CHRISTOPH ROTH,
GLEN PIERSON, SEAN KERR, and ALI RECBER

Appeal 2015-006524
Application 12/388,676
Technology Center 3700

Before LINDA E. HORNER, JILL D. HILL, and BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 2–6, 8–16, 18, and 20–31. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to a nail and a method for implanting the nail in bone. Claims 20 and 26 are independent. Claim 20, reproduced below, is illustrative of the claimed subject matter:

> 20. A nail for insertion into a patient's bone, comprising:
>
> a shaft extending from a proximal end to a distal end along a longitudinal axis thereof;
>
> a cannulated bore extending from the proximal end to the distal end;
>
> a plurality of spiral blades extending along a distal portion thereof, each of the blades extending from a first end to a second end; and
>
> a cutout portion removing a distal portion exposing a portion of the bore so that injectable material injected through the cannulated bore flows out of the shaft away from the longitudinal axis in one direction only away from an inner wall of a remaining portion of the bore.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Haig	US 4,494,535	Jan. 22, 1985
Roth	US 6,835,197 B2	Dec. 28, 2004
Fourcault	US 2004/0068261 A1	Apr. 8, 2004
Wisnewski	US 2007/0260250 A1	Nov. 8, 2007

REJECTIONS

I. Claims 3 and 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Fourcault.

II. Claims 3, 4, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Roth and Fourcault.

III. Claims 2, 5–16, 18, and 20–30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haig and Roth.

IV. Claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Haig, Roth, and Wisnewski.

OPINION

Rejection I

Appellants argue the patentability of claim 20 and rely on these arguments for all of the claims under Rejection I. *See generally* Appeal Br. 4–9. We select claim 20 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellants argue that claim 20 is not anticipated because Fourcault does not teach: "'a cutout portion removing a distal portion exposing a portion of the bore *so that injectable material injected through the cannulated bore flows out of the shaft away from the longitudinal axis* <u>*in one direction only*</u> *away from an inner wall of a remaining portion of the bore*.'" Appeal Br. 6.

The Examiner finds that "the device of Fourcault comprises both the cannulated bore and cutout necessary to receive and direct an injectable material." Final Act. 13. Further, the Examiner finds "material injected into the cannulated bore and flowing out of the cut out *could* only flow 'away from an inner wall of a remaining portion of the bore' [where] . . . 'away from an inner wall of a remaining portion of the bore' defines the [claimed] one direction." *Id.* (emphasis added, emphasis in original omitted). The Examiner also found "that a highly viscous fluid could creep slowly in a linear direction through the cutout and maintain the same linear direction,

and that the direction of flow is also dependent upon the material properties of the injectable fluid." Ans. 13–14.

Here, Appellants do not contest the Examiner's finding that Fourcault discloses "a cutout portion removing a distal portion exposing a portion of the bore," but argue instead that the cutout portion is not configured "*so that injectable material injected through the cannulated bore flows out of the shaft away from the longitudinal axis* in one direction only *away from an inner wall of a remaining portion of the bore.*" Appeal Br. 6.

Although "[a] patent applicant is free to recite features of an apparatus either structurally or functionally . . . , choosing to define an element functionally . . . carries with it a risk." *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997). This risk is that Appellants bear the burden to prove that the prior art does not possess the functional characteristic, once the Examiner has shown a sound basis for believing the claimed structure to be the same as the prior art structure. *See In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

Appellants argue that the claimed "cutout portion . . . recites a particular type of physical structure, *i.e.*, the cutout 'exposing a portion of the bore so that injectable material injected through the cannulated bore flows out of the shaft away from the longitudinal axis in one direction only away from an inner wall of a remaining portion of the bore.'" Appeal Br. 6. Appellants cite to Figures 8 and 9 of the Specification as "show[ing] an exemplary structure that meets this requirement." *Id.* at 7. Appellants also state:

> The Specification of the present application describes this cutout as a cannulation 128 such that "the material 102 may be injected under pressure to *allow* the material 102 to flow down the

> cannulation 128 and out of the most distal end 124," and the distal end 12[4] of the nail *allows* material 103 to flow preferentially in one direction.

Id. at 6–7 (citing Spec. ¶ 90) (italics added).

As noted in italics above, the Specification teaches that the cannulated bore and cutout "*allow* the material 102 to flow down the cannulation 128 and out of the most distal end 124" and further "allows material 103 to flow preferentially in one direction." This is consistent with other teachings of the Specification, which clarify that a number of conditions must be met in order for the material to flow through the nail and exit in a particular direction. For example, the Specification states:

> Low viscosity materials *tend to find the path of least resistance and flow into these areas preferentially*. A higher viscosity material, such as the material of the present invention can flow in the direction of injection, rather than back-flowing, and will form a bolus of material.

Spec. ¶ 61 (emphasis added).

> A heated cartridge of PCL may be attached to the proximal end of the blade 122 and the material 102 may be injected under pressure to *allow* the material 102 to flow down the cannulation 128 and out of the most distal end 124. The modification to the distal end 124 *allows* the material 102 to flow preferentially in one direction, in this case the superior direction.

Id. ¶ 90 (emphasis added).

> The cutout portion 200 of the nail 126 *allows* the surgeon to direct the outflow of the injectable material 102 such that the material 102 flows preferentially in one direction only, in this case past the distal end 124 of the nail 126 and superiorly of the nail 126 *when properly positioned in situ*, as generally illustrated in Fig. 9.

Id. ¶ 101 (emphasis added).

Among other things, the viscosity of the material and the orientation or positioning of the nail in situ are not claimed. But, it is clear from the Specification that the cutout alone does not cause the material to flow in one direction, but rather *allows* it to flow in one direction when under the proper conditions. Under other conditions the material would flow in other directions, such as in "the path of least resistance" or simply out the claimed distal end of the cannulated bore. *See also* Figure 8, distal end 124 ("an exemplary structure that meets [the claimed] requirement" as stated in Appeal Br. 7).

In view of the above teachings from the Specification and findings by the Examiner, we determine that the Examiner has provided a sound basis for believing that the claimed structure is the same as the structure of Fourcault and that the structure of Fourcault is capable of performing the claimed function.

Though Appellants argue that Fourcault does not teach the claimed limitations, they do not identify any structure that differentiates Fourcault from claim 20. *See* Ans. 13–14 (addressing Appellants' argument that the three teeth 11A of Fourcault differ from the claimed structure). Appellants do argue that Fourcault's structure "would permit fluid to flow in multiple different radial directions," (Appeal Br. 7) but this does not mean that it would not "allow[] material []to flow [] in <u>one direction</u>" as highlighted by Appellants and discussed above.

Appellants also argue that Fourcault "does not contemplate injecting a material therethrough." Appeal Br. 7. Claim 20 is an apparatus claim and, as such, prior art relied on in the rejection is not required to perform the intended function of the claim, but is merely required to be capable of

performing the intended function. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997) (finding that an oil can in the prior art taught all of the structural limitations of the claimed popcorn dispenser, and was capable of performing the claimed functional characteristics). Appellants do not argue that Fourcault is not capable of injecting a material therethrough. Thus, we are not informed of error in the Examiner's rejection.

For all of the above reasons we sustain the Examiner's anticipation rejection.

Rejection II

Appellants rely on the reasoning discussed above, to argue the patentability of the claims under Rejection II. Appeal Br. 10–11. We sustain the Examiner's obviousness rejection for the same reasons as discussed above.

Rejections III & IV

Appellants argue the patentability of claim 20 and rely on these arguments for all of the claims under Rejection III. *See generally* Appeal Br. 11–16. We select claim 20 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv). Appellants also rely on the arguments presented for claim 20 as the basis for patentability of dependent claim 31, which is subject to Rejection IV. Appeal Br. 16–17 (arguing that Wisnewski does not cure the deficiencies in Haig and Roth as to claim 20).

The Examiner finds that Haig teaches a nail with the bore and cutout portion of claim 20. Final Act. 5–6. The Examiner also finds that Haig

teaches blades on the nail, but relies on Roth for teaching a nail with spiral blades as claimed. *Id.* at 6.

Appellants argue that Haig fails to teach or suggest claim 20's '"cutout portion removing a distal portion exposing a portion of the bore *so that injectable material injected through the cannulated bore flows out of the shaft away from the longitudinal axis* <u>*in one direction only*</u> *away from an inner wall of a remaining portion of the bore.*'" Appeal Br. 12. This is because "Haig only describes fluid flow out of ports 20 in ***multiple different radial directions*** so as to ***surround*** the leading end 17 of nail 10." *Id.*

Appellants' premise is incorrect. Appellants do not address the teaching of Haig relied upon by the Examiner of a *single* port used to eject polymer. Final Act. 15; Ans. 17 (noting Haig discloses "***one or more ports***"). Rather Appellants point to the illustrated embodiment with multiple ports and a sentence in Haig describing this embodiment. Appeal Br. 12–13 (citing Haig col. 1:68–col. 2:3 "Polymer **56**, ejected from port **20** . . . permeates the surrounding bone to stabilize it and to adhere to the nail **10**."). Thus, Appellants have not identified error in the Examiner's rejection.

Appellants also argue against modifying Haig to meet the above-referenced claim limitation. *Id.* at 14. The Examiner found that the single port 20 of Haig teaches the claimed cutout that is capable to perform the claimed function, thus no modification is necessary. As the rejection does not require the argued upon modification of Haig, we are not informed of error in the Examiner's rejection.

DECISION

The Examiner's rejections of claims 2–6, 8–16, 18, and 20–31 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED